

CLAIMS

What is claimed is:

1. A recording and/or reproducing apparatus which reproduces audio and/or video (AV) data read from a storage medium in an interactive mode, the apparatus comprising:
 - an ENAV buffer in which is loaded an ENAV file; and
 - an ENAV engine which interprets and reproduces the buffered ENAV file to be reproduced with the AV data in the interactive mode,wherein the ENAV engine allocates at least a portion of the ENAV buffer as an updateable markup area based on ENAV buffer configuration information, reads the ENAV file, and loads the ENAV file in the updateable markup area of the ENAV buffer.
2. The recording and/or reproducing apparatus of claim 1, further comprising:
 - an AV buffer in which is loaded an AV file containing the AV data read from the storage medium; and
 - an AV reproducing engine which reproduces the buffered AV file from the AV buffer.
3. The recording and/or reproducing apparatus of claim 1, wherein:
 - the ENAV file is one of a plurality of ENAV files used in the interactive mode,
 - a loading information file includes the ENAV buffer configuration information, and
 - the ENAV engine reads the ENAV buffer configuration information included in the loading information file to obtain information regarding a name and a location of a predetermined one of the plurality of ENAV files to be first read before remaining ones of the ENAV files.
4. The recording and/or reproducing apparatus of claim 1, wherein:
 - a loading information file includes the ENAV buffer configuration information, and
 - the ENAV engine reads the ENAV buffer configuration information recorded in the loading information file using a memory element to indicate the ENAV file is to be buffered in the updateable markup area instead of in another area of the ENAV buffer.
5. The recording and/or reproducing apparatus of claim 1, wherein:

a loading information file includes the ENAV buffer configuration information, and the ENAV engine reads as the ENAV buffer configuration information, a name and a size of a memory area recorded in the loading information file using attributes of a memory element to indicate the ENAV file is to be buffered in the updateable markup area instead of another area of the ENAV buffer.

6. The recording and/or reproducing apparatus of claim 1, wherein:
a loading information file includes the ENAV buffer configuration information,
a start up file is included in a directory for the ENAV file and is linked to the loading information file, and
the ENAV engine detects the startup file from the directory, and reads the ENAV buffer configuration information recorded in the loading information file linked to the startup file.

7. A recording and/or reproducing apparatus which reproduces audio and/or video (AV) data from a storage medium in an interactive mode, the apparatus comprising:
an ENAV buffer in which is to be loaded an ENAV file for providing a predetermined Internet service; and
an ENAV engine which interprets and reproduces the buffered ENAV file to be reproduced with the AV data in the interactive mode,
wherein the ENAV engine allocates at least a portion of the ENAV buffer as an updateable markup area based on ENAV buffer configuration information, reads the ENAV file, and loads the ENAV file into the updateable markup area of the ENAV buffer to provide the predetermined Internet service in the interactive mode.

8. The recording and/or reproducing apparatus of claim 7, further comprising:
an AV buffer in which is loaded an AV file containing the AV data read from the storage medium; and
an AV reproducing engine which reproduces the buffered AV file.

9. The recording and/or reproducing apparatus of claim 7, wherein:
the ENAV file is one of a plurality of ENAV files used in the interactive mode,

a loading information file includes the ENAV buffer configuration information; and
the ENAV engine reads the ENAV buffer configuration information to obtain information
regarding a name and a location of a predetermined one of the ENAV files to be first read.

10. The recording and/or reproducing apparatus of claim 7, wherein:
a loading information file includes the ENAV buffer configuration information; and
the ENAV engine reads the ENAV buffer configuration information using a memory
element that indicates whether the ENAV file is to be buffered in the updateable markup area.

11. The recording and/or reproducing apparatus of claim 7, wherein:
a loading information file includes the ENAV buffer configuration information; and
the ENAV engine reads as the ENAV buffer configuration information, a name and a size
of a memory area recorded in the loading information file using attributes of a memory element
in the loading information file and which indicates whether the ENAV file is to be buffered in the
allocated portion of the ENAV buffer.

12. The recording and/or reproducing apparatus of claim 7, wherein:
a loading information file includes the ENAV buffer configuration information;
a startup file is in a directory including the ENAV file and is linked to the loading
information file, and
the ENAV engine detects the loading information file from the startup file read from the
directory, and reads the ENAV buffer configuration information recorded in the loading
information file linked to the startup file.

13. The recording and/or reproducing apparatus of claim 4, wherein:
the loading information file is stored on the storage medium which stores the AV data,
and
the ENAV engine reads the ENAV buffer configuration information using the loading
information file read from the storage medium.

14. The recording and/or reproducing apparatus of claim 13, wherein:

the memory element indicates

a location of the ENAV file as being on another storage medium other than the storage medium from which the AV data is read, and

a location of another ENAV file as being on the storage medium, and

the ENAV engine loads one of the ENAV files determined to be an updateable markup file to be buffered into the allocated updateable markup area of the ENAV buffer, and loads the other one of the ENAV files determined not to be an updateable markup file into another portion of the ENAV buffer other than the updateable markup area and which is not allocated for the updateable markup file.

15. The recording and/or reproducing apparatus of claim 14, wherein the another storage medium comprises a server connected to the ENAV buffer.

16. A recording and/or reproducing apparatus which reproduces first data and interactive data read from a storage medium in an interactive mode, the apparatus comprising:

a first engine which reproduces the first data for use in the interactive mode;

a buffer in which is loaded an interactive file to be reproduced with the first data in the interactive mode; and

an engine which detects configuration information from the interactive data read from the storage medium for the interactive file to be read, allocates a portion of the buffer to be reserved for an updateable interactive file prior to receiving the interactive file, uses the configuration information to buffer the interactive file to be reproduced in the allocated portion if the interactive file is the updateable interactive file, and reproduces the interactive file from the allocated portion to be reproduced with the reproduced first data in the interactive mode.

17. The recording and/or reproducing apparatus of claim 16, wherein the engine interprets the configuration information using the interactive data reproduced from the storage medium.

18. The recording and/or reproducing apparatus of claim 17, wherein the interactive data read from the storage medium includes buffer allocation information, and the engine allocates the allocated area of the buffer using the buffer allocation information.

19. The recording and/or reproducing apparatus of claim 16, wherein the configuration information includes buffer allocation information, and the engine allocates the allocated area of the buffer using the buffer allocation information.

20. The recording and/or reproducing apparatus of claim 16, wherein the engine allocates the allocated area of the buffer using size information provided by another storage medium external to the storage medium and which provides the interactive file to the apparatus.

21. The recording and/or reproducing apparatus of claim 20, further comprising another apparatus connected to the interactive buffer through a network, wherein the another storage medium is in the another apparatus.

22. The recording and/or reproducing apparatus of claim 21, wherein the another apparatus comprises a server.

23. The recording and/or reproducing apparatus of claim 16, wherein the engine allocates the allocated area of the buffer using size information provided by a size detected from the interactive file to be read from the storage medium.

24. The recording and/or reproducing apparatus of claim 16, wherein the engine detects a loading information file indicating an order of interactive files to be reproduced, and buffers the interactive file in the buffer using the loading information file.

25. The recording and/or reproducing apparatus of claim 16, wherein:
the engine detects a loading information file indicating:

a location of the interactive file to be reproduced using information that indicates and distinguishes between a location on one of the storage medium and on another storage medium other than the storage medium, and

buffer information of the interactive file using information that indicates and distinguishes that the interactive file is to be buffered in one of the allocated portion of the buffer and another portion of the buffer not allocated for the updateable interactive file, and

the engine selectively buffers the interactive file in the allocated and another portions of the buffer according to the buffer information.

26. The recording and/or reproducing apparatus of claim 16, wherein, if the interactive file has been updated as compared to the interactive file currently buffered, the engine buffers the updated interactive file in the allocated portion to replace the interactive file currently buffered.

27. The recording and/or reproducing apparatus of claim 26, wherein the interactive file and the updated interactive file are buffered from another storage medium connected to the buffer and other than the storage medium having the first data.

28. The recording and/or reproducing apparatus of claim 16, further comprising a display, wherein:

the first data includes an image, and

the first engine reproduces the first data to provide the image to be displayed in a first portion of the display and the engine reproduces the interactive file to provide an interactive display in a second portion of the display other than the first portion.

29. The recording and/reproducing apparatus of claim 28, further comprising an audio output, wherein the first data includes audio data to be reproduced through the audio output with the image.

30. The recording and/reproducing apparatus of claim 28, wherein the first data includes a video comprising the image.

31. The recording and/reproducing apparatus of claim 16, further comprising an audio output, wherein the first data includes audio data to be reproduced through the audio output as the reproduced interactive file is reproduced.